

WHAT IS CLAIMED IS:

1. A fixing device comprising:

a coil unit which holds a coil having a predetermined number of turns;

5 a coil assembly which includes at least two coil units; and

a heating member which generates heat by an eddy current upon a change in a magnetic field generated by an induction heating coil of the coil assembly.

10 2. A device according to claim 1, wherein

the coil assembly includes a first coil unit, a second coil unit, and a holding body,

the second coil unit is arranged on each of two sides of the first coil unit, and

15 the holding body simultaneously holds the first and second coil units.

3. A device according to claim 2, wherein the first and second coil units have different numbers of coil turns.

20 4. A device according to claim 2, further comprising a power supply mechanism which supplies high-frequency power to the coil,

wherein when powers are simultaneously supplied to the first and second coil units, potentials at 25 positions where the first and second coil units face each other are substantially equal.

5. A device according to claim 2, wherein the

second coil units are arranged symmetrically with respect to the first coil unit in a direction perpendicular to a convey direction of a paper sheet conveyed to the heating member.

5       6. A device according to claim 2, wherein the first and second coil units have different lengths in a direction perpendicular to a convey direction of a paper sheet conveyed to the heating member.

10      7. A device according to claim 1, wherein the coil includes a single wire.

8. A device according to claim 4, wherein letting A be a frequency and L be an overall coil length, power supplied to the coil is within the following range for  $\sqrt{A} / L \geq 1$ .

15      9. A fixing device comprising:

a coil unit which holds a coil having a predetermined number of turns;

20      a coil body which includes at least two coil units and includes an induction heating coil formed by a plurality of series- or parallel-connected coils;

a coil assembly which includes at least two coil bodies;

25      a heating member which generates heat by an eddy current upon a change in a magnetic field generated by the induction heating coil; and

a power supply mechanism which supplies high-frequency power to the induction heating coil.

10. A device according to claim 9, wherein the induction heating coil includes a single wire.

11. A device according to claim 9, wherein letting A be a frequency and L be an overall coil length, power supplied to the induction heating coil is within the 5 following range for  $\sqrt{A} / L \geq 1$ .

12. A device according to claim 9, wherein 10 the power supply mechanism includes a high-frequency generation circuit, adjusts a voltage from a commercial AC power supply, and applies a predetermined voltage to the high-frequency generation circuit, and

15 predetermined voltages are applied from the high-frequency generation circuit and the AC power supply to supply high-frequency power to the induction heating coil.

13. A device according to claim 9, wherein the number of coil units which constitute the coil body is even.

20 14. A device according to claim 9, wherein the numbers of coil units which constitute first and second coil bodies are equal.

25 15. A device according to claim 9, wherein when powers are simultaneously supplied to first and second coil units, potentials at positions where the first and second coil units face each other are substantially equal.

16. A fixing device comprising:

a heating device including a core, a plurality of coil holding bodies, a plurality of coil bodies, and a metal body,

5           the core having a plurality of grooves extending in an axial direction,

              the coil holding bodies each having an outer surface and an inner surface and having a predetermined length outside the core in the axial direction,

10          the coil bodies each being wound around the outer surface of the coil holding body in a predetermined direction, receiving a voltage and a current at a predetermined frequency to generate a magnetic field, and having one end connected to a power supply via  
15          an arbitrary groove of the core and the other end connected to the power supply via a remaining groove of the core, and

              the metal body being positioned around the coil body so as to generate an eddy current in accordance  
20          with the magnetic field provided by the coil body;

              a power supply device which supplies the voltage and the current at the predetermined frequency to the coil body; and

25          a press member which provides a predetermined pressure to the metal body.

17. A device according to claim 16, wherein the coil holding body has a notch through which a coil

passes, at a position corresponding to the groove of the core.

18. A device according to claim 16, wherein  
a predetermined number of coil bodies use the same  
5 circuit.

19. A device according to claim 16, wherein  
the number of grooves of the core is the number of circuits + 1.

20. A device according to claim 16, wherein  
10 a sectional area of a groove in which a common side of the same circuit is set is larger than a sectional area of a remaining groove.

21. A device according to claim 16, wherein a  
groove in which a non-common side of the same circuit  
15 is set is independent for each circuit.